

Customer Value Intelligence System

***RFM Segmentation • CLV Forecasting • Behavioral Clustering • Dashboard
Case Study by Anirudh Hegde***

1. Business Context

- Retail campaigns treat all customers the same
- No visibility into VIPs vs low-value customers
- Missed retention opportunities
- Need for segmentation and predictive value

2. Data Used

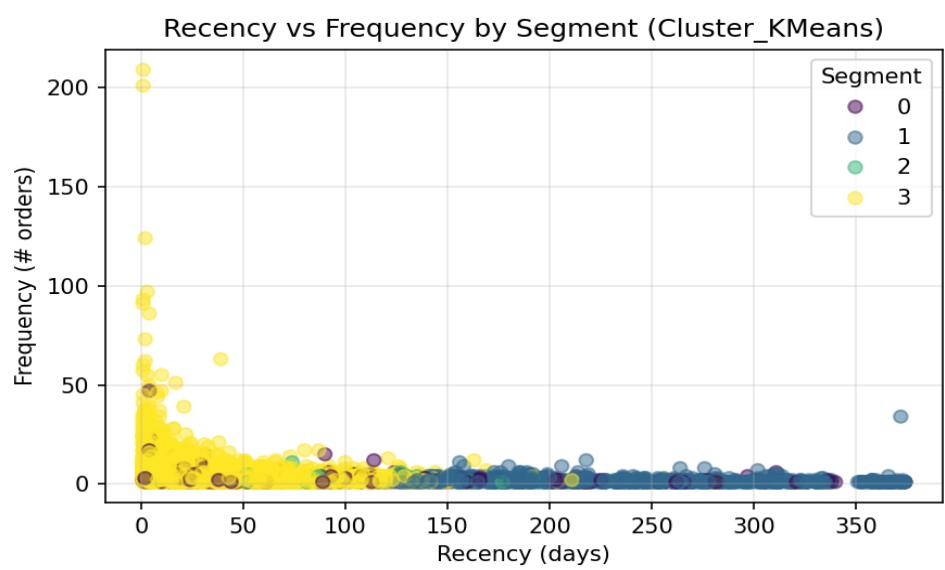
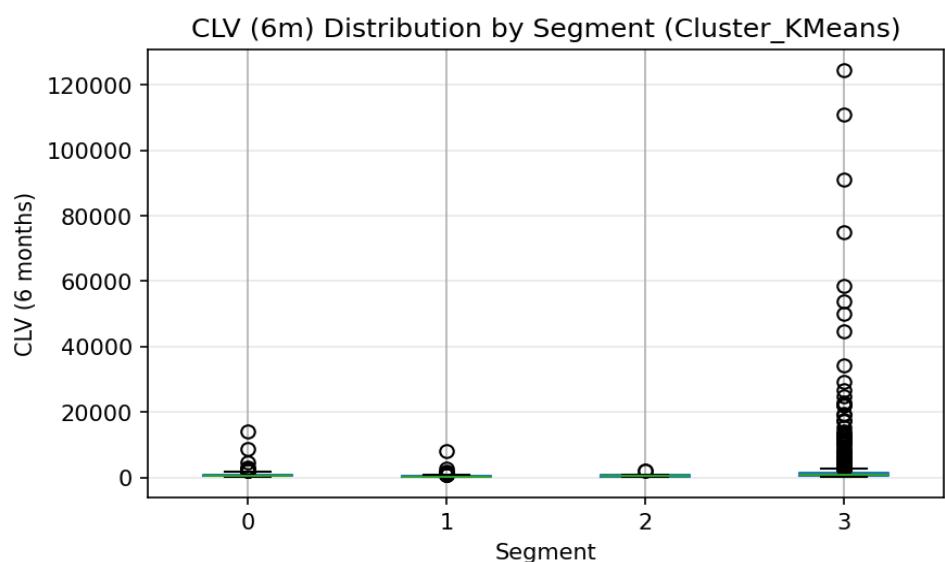
- 1 year of ecommerce transactions
- 392,000+ cleaned rows
- Key fields: CustomerID, InvoiceDate, Quantity, UnitPrice, Country

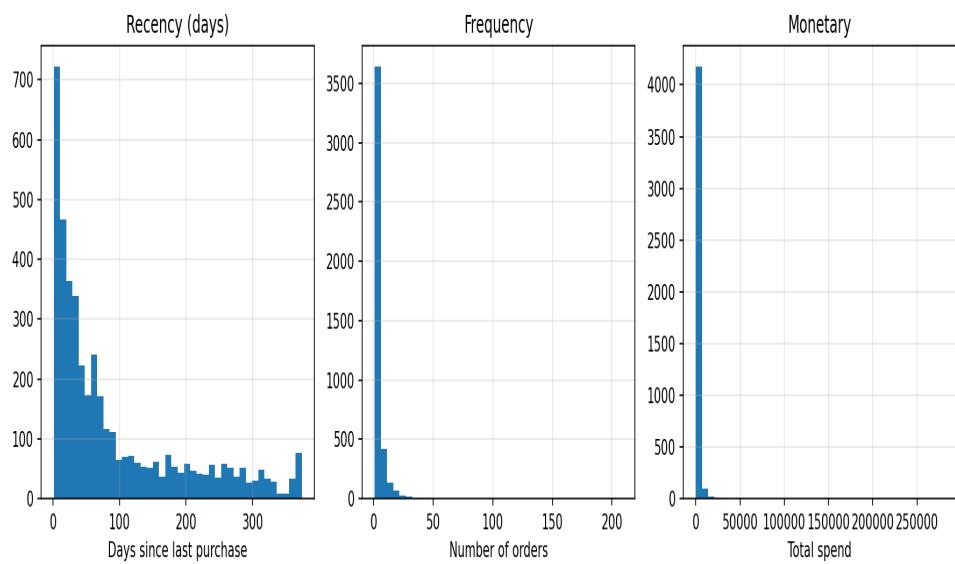
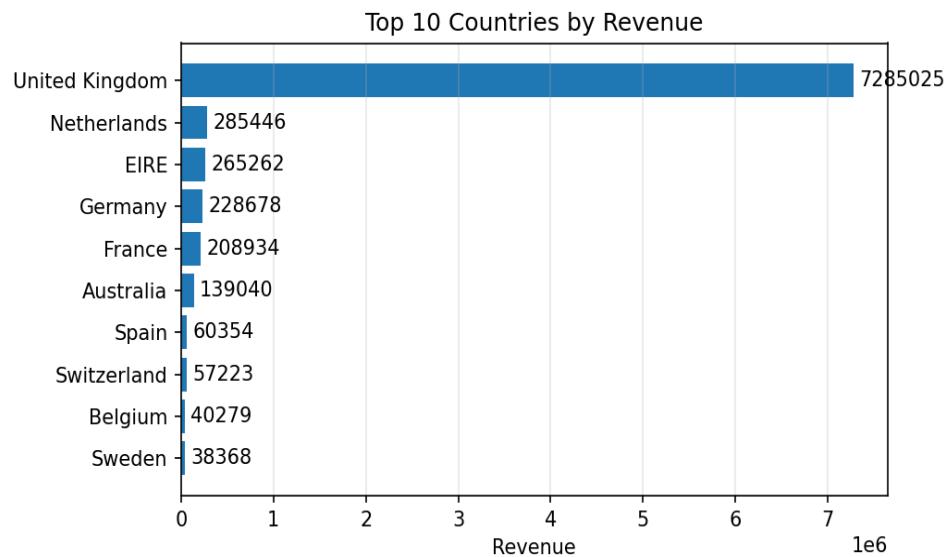
3. Approach & Methodology

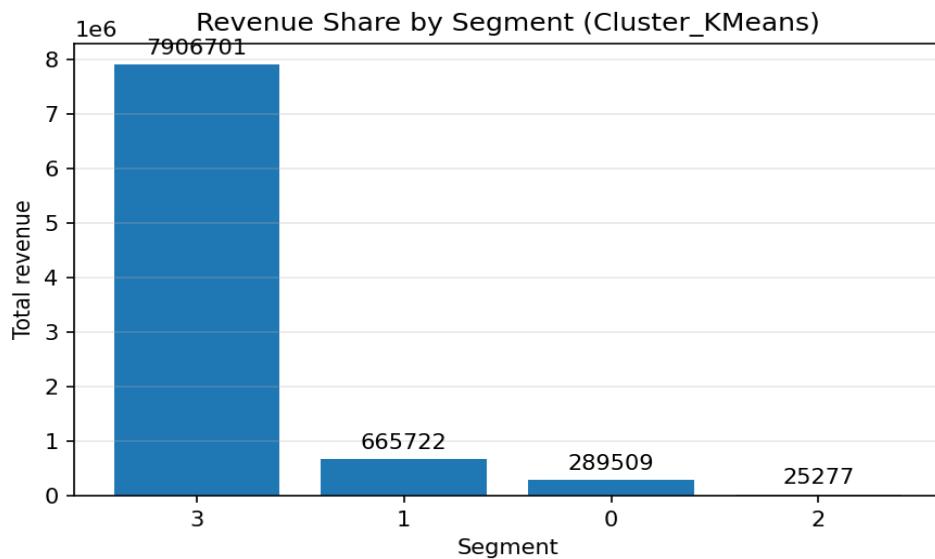
- Data Engineering (cleaning + features)
- CLV Modeling (BG/NBD + Gamma-Gamma)
- Segmentation (KMeans, Hierarchical, GMM)
- Interactive Streamlit dashboard
- Flow: Data → Features → CLV & Segments → Dashboard

4. Key Insights

- VIP segment (~10%) drives ~50% revenue
- 75%+ customers buy only once or twice
- UK dominates revenue
- High-CLV customers show Home Decor & Kitchen affinity
- CLV model correctly ranks future high-value customers







5. Impact & Segment Playbooks

- Enables targeted retention strategies
- Improves marketing ROI
- Identifies high-potential customers early
- Supports loyalty, upsell, and win-back

GitHub: github.com/AnirudhHegde20/Customer-Value-Intelligence-System

Created by: Anirudh Hegde — Data Analytics & ML